

1           1.       In a server federation that includes a plurality of servers that communicate  
2 with a plurality of client devices, a method for fulfilling a request comprising the  
3 following:

4           a first server of the plurality of servers receiving a request for a service;  
5           the first server determining that further information is needed from at least a second  
6 server in order to respond to the request for the service;

7           the first server structuring a request for the further information utilizing a schema  
8 recognized by both the first server and the second server, wherein the meaning of the  
9 request for further information is implied by the schema;

10          the first server dispatching the request for the further information to the second  
11 server using a transport-independent messaging infrastructure;

12          the first server receiving a response from the second server, the response including  
13 the further information; and

14          the first server using the further information to respond to the request for the  
15 service.

16  
17          2.       A method in accordance with Claim 1, wherein the first server structuring a  
18 request for further information comprises the following:

19          the first server structuring the request in accordance with an eXtensible Markup  
20 Language (XML).

21  
22          3.       A method in accordance with Claim 1, wherein the first server receiving a  
23 response from the second server comprises the following:

1 the first server receiving the response from the second server in the form of a data  
2 structure structured in accordance with an eXtensible Markup Language (XML).

3  
4 4. A method in accordance with Claim 1, wherein the first server dispatching  
5 the request for the further information to the second server using a transport-independent  
6 messaging infrastructure comprises the following:

7 the first server dispatching the request for the further information using a Simple  
8 Object Access Protocol (SOAP).

9  
10 5. A method in accordance with Claim 4, wherein the first server structuring a  
11 request for the further information comprises the following:

12 the first server structuring the request in accordance with an eXtensible Markup  
13 Language (XML).

14  
15 6. A method in accordance with Claim 1, wherein the first server receiving a  
16 response from the second server comprises the following:

17 the first server receiving the response from the second server using a Simple Object  
18 Access Protocol (SOAP).

19  
20 7. A method in accordance with Claim 6, wherein the first server receiving a  
21 response from the second server further comprises the following:

22 the first server receiving the response from the second server in the form of a data  
23 structure structured in accordance with an eXtensible Markup Language (XML).

1           8.       A method in accordance with Claim 1, wherein the first server dispatching  
2 the request for the further information to the second server using a transport-independent  
3 messaging infrastructure comprises the following:

4           a messaging component communicating with a common Application Program  
5 Interface that supports a plurality of transports.

6  
7           9.       A method in accordance with Claim 8, wherein the first server dispatching  
8 the request for the further information to the second server using a transport-independent  
9 messaging infrastructure comprises the following:

10          the common Application Program Interface communicating with an appropriate  
11 one of the plurality of transports in response to the messaging component communicating  
12 with the common Application Program Interface.

13  
14          10.      A method in accordance with Claim 9, wherein the common Application  
15 Program Interface communicating with an appropriate one of the plurality of transports  
16 comprises the following:

17          the common Application Program Interface communicating with a HyperText  
18 Transport Protocol (HTTP) transport.

19  
20          11.      A method in accordance with Claim 9, wherein the common Application  
21 Program Interface communicating with an appropriate one of the plurality of transports  
22 comprises the following:

23          the common Application Program Interface communicating with an MSMQ binary  
24 transport.

1  
2           12.     A method in accordance with Claim 8, wherein the common Application  
3 Program Interface communicating with an appropriate one of the plurality of transports  
4 comprises the following:

5           the common Application Program Interface communicating with a multicast  
6 transport.

7  
8           13.     A method in accordance with Claim 8, wherein the common Application  
9 Program Interface communicating with an appropriate one of the plurality of transports  
10 comprises the following:

11           the common Application Program Interface communicating with an SMTP  
12 transport.

13  
14           14.     A method in accordance with Claim 1, wherein the first server of the  
15 plurality of servers receiving a request for service comprises the following:

16           the first server of the plurality of servers receiving the request for service from a  
17 third server.

18  
19           15.     A method in accordance with Claim 1, wherein the first server of the  
20 plurality of servers receiving a request for service comprises the following:

21           the first server of the plurality of servers receiving the request for service from a  
22 client.

1           16.     A computer program product for use in a first server of a server federation,  
2 the server federation including a plurality of servers that communicate with a plurality of  
3 client devices, the computer program product including a computer-readable medium  
4 having stored thereon the following:

5           computer-executable instructions for detecting the receipt of a request for a service;  
6           computer-executable instructions for determining that further information is needed  
7 from at least a second server in order to respond to the request for the service;

8           computer-executable instructions for structuring a request for the further  
9 information utilizing a schema recognized by both the first server and the second server,  
10 wherein the meaning of the request for further information is implied by the schema;

11           computer-executable instructions for causing the request for the further information  
12 to be dispatched to the second server using a transport-independent messaging  
13 infrastructure;

14           computer-executable instructions for detecting the receipt of a response from the  
15 second server; and

16           computer-executable instructions for using the further information to respond to the  
17 request for the service.

18  
19           17.     A computer program product in accordance with Claim 16, wherein the  
20 computer-readable medium is a physical storage medium.

21  
22           18.     A computer program product in accordance with Claim 16, wherein the  
23 computer-executable instructions for structuring a request for the further information

1 utilizing a schema recognized by both the first server and the second server comprise the  
2 following:

3 computer-executable instructions for structuring the request in accordance with an  
4 eXtensible Markup Language (XML).

5  
6 19. A computer program product in accordance with Claim 16, wherein the  
7 computer-executable instructions for causing the request for the further information to be  
8 dispatched to the second server using a transport-independent messaging infrastructure  
9 comprise the following:

10 computer-executable instructions for communicating with a common Application  
11 Program Interface that supports a plurality of transports.

12  
13 20. A computer program product in accordance with Claim 19, wherein the  
14 computer-executable instructions for causing the request for the further information to be  
15 dispatched to the second server using a transport-independent messaging infrastructure  
16 further comprise the following:

17 computer-executable instructions for implementing the common Application  
18 Program Interface such that the common Application Program Interface communicates  
19 with an appropriate one of the plurality of transports in response to the execution of the  
20 computer-executable instructions for communicating with the common Application  
21 Program Interface.

22

1           21. In a network that includes a plurality of servers that communicate with a  
2 plurality of client devices including a first client device and a second client device, a  
3 method for facilitating a mid-session transition between the first client device and the  
4 second client device, the method comprising the following:

5           retrieving state information stored on at least one server;

6           interacting in a session with the first client device resulting in an update of the state  
7 information;

8           storing the updated information on the at least one server;

9           retrieving the updated state information when the session is continued on the  
10 second client device; and

11           interacting in the continued session with the second client device based on the  
12 updated state information.

13  
14           22. A method in accordance with Claim 21, further comprising the following:  
15           authenticating a user of the first client device before allowing the state information  
16 to be updated in response to interacting in the session with the first client device.

17  
18           23. A method in accordance with Claim 22, further comprising the following:  
19           authenticating a user of the second client device as being the same user as the user  
20 of the first client device before interacting in the continued session with the second client  
21 device.

22  
23           24. A method in accordance with Claim 21, wherein the state information is  
24 stored on the at least one server utilizing a data structure that follows a schema recognized

1 by the plurality of servers, wherein the meaning of the state information is implied by the  
2 schema.

3  
4 25. A method in accordance with Claim 24, wherein the data structure is  
5 structured in accordance with an eXtensible Markup Language (XML).

6  
7 26. A method in accordance with Claim 21, wherein the at least one server  
8 comprises a server federation.

9  
10 27. A method in accordance with Claim 21, wherein at least a portion of the  
11 state information includes user interface information, wherein interacting in a session with  
12 the first client device comprises the following:

13 determining first user interface characteristics of the first client device; and

14 providing a first set of the user interface information to the first client device, the  
15 first set of the user interface information tailored towards the first user interface  
16 characteristics.

17  
18 28. A method in accordance with Claim 27, wherein interacting in the  
19 continued session with the second client device comprises the following:

20 determining second user interface characteristics of the second client device; and

21 providing a second set of the user interface information to the second client device,  
22 the second set of user interface information tailored towards the second user interface  
23 characteristics.



1           29.     A method in accordance with Claim 28, wherein the first and second client  
2 devices have the same user interface capabilities, wherein the first and second sets of state  
3 information comprise substantially the same user interface information thereby allowing  
4 the first and second client devices to display the same information.

5  
6           30.     A method in accordance with Claim 28, wherein the first and second client  
7 devices have different user interface capabilities, wherein the first and second sets of user  
8 interface information are different.

9  
10          31.     A method in accordance with Claim 30, wherein interacting in a session  
11 with the first client device comprises the following:

12                 interacting in the session with a personal computer.

13  
14          32.     A method in accordance with Claim 31, wherein the personal computer  
15 comprises a first personal computer, wherein interacting in the continued session with the  
16 second client device comprises the following:

17                 interacting in the continued session with a second personal computer.

18  
19          33.     A method in accordance with Claim 31, wherein interacting in the  
20 continued session with the second client device comprises the following:

21                 interacting in the continued session with a mobile telephone.

22  
23          34.     A method in accordance with Claim 30, wherein interacting in a session  
24 with the first client device comprises the following:

1 interacting in the session with a mobile telephone.

2  
3 35. A method in accordance with Claim 34, wherein the mobile telephone  
4 comprises a first mobile telephone, wherein interacting in the continued session with the  
5 second client device comprises the following:

6 interacting in the continued session with a second mobile telephone.

7  
8 36. A method in accordance with Claim 34, wherein interacting in the  
9 continued session with the second client device comprises the following:

10 interacting in the continued session with a personal computer.

11  
12 37. A method in accordance with Claim 21, further comprising the following:  
13 at least temporarily ceasing interacting in the session with the first client device,  
14 wherein interacting in the continued session with the second client device occurs after at  
15 least temporarily ceasing interaction in the session with the first client device.

16  
17 38. A method in accordance with Claim 21, wherein retrieving state  
18 information stored on at least one server comprises the following:

19 retrieving preference information stored on the at least one server.

20  
21 39. A method in accordance with Claim 21, wherein storing the updated  
22 information on the at least one server comprises the following:

23 storing session status information for the session on the at least one server.

1           40.     A method in accordance with Claim 21, wherein the plurality of servers  
2 comprises a server federation, wherein the acts of retrieving state information, interacting  
3 in a session with the first client device, storing the updated information, retrieving the  
4 updated state information, and interacting in the continued session are cooperatively  
5 performed by two or more servers of the server federation.  
6

1           41. A computer program product for use in a network that includes a plurality of  
2 servers that communicate with a plurality of client devices including a first client device  
3 and a second client device, the computer program product for implementing a method for  
4 facilitating a mid-session transition between the first client device and the second client  
5 device, the computer program product comprising a computer-readable medium having  
6 stored thereon the following:

7           computer-executable instructions for detecting the receipt of state information  
8 stored on at least one server;

9           computer-executable instructions for causing interaction in a session with the first  
10 client device;

11           computer-executable instructions for causing the state information to be updated in  
12 response to interaction in the session with the first client device;

13           computer-executable instructions for causing the updated information to be stored  
14 on the at least one server;

15           computer-executable instructions for detecting the receipt of the updated state  
16 information when the session is continued on the second client device; and

17           computer-executable instructions for causing interaction in the continued session  
18 with the second client device based on the updated state information.

19  
20           42. A computer program product in accordance with Claim 41, wherein the  
21 computer-readable medium is a physical storage medium.  
22